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| WRIGHT, L EXAMINER | |
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03/14/96

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents

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15. Claims 1-9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language "the external shell thereof" is indefinite and lacks antecedent basis. No external shell is previously present or required. It is also unclear if the grains being referred to by "thereof" are the tabular grains in an amount of not less than 50% or are all of the silver halide grains.

Are the grains required to be core/shell type grains?

16. Claim 4 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language "core grains" is indefinite and lacks antecedent basis. No core grains are previously present or required.

17. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claim 10 is rejected under 35 U.S.C. § 103 as being unpatentable over Saitou et al., Yamamoto et al., Hasegawa or Takahashi.

Saitou et al., note claims 7 and 8, Yamamoto et al., note column 7 lines 31-35, Hasegawa, note column 8 lines 20-25, and Takahashi, note column 9 lines 57-67 each disclose silver halide emulsions which may be internal latent image type grains. Each of Saitou et al. (note the Examples), Yamamoto et al. (note column 9 lines 43-48), Hasegawa (note the Examples and the claims) and Takahashi (note column 19 lines 29-32) disclose that the grains may be a crystal emulsion which has been desalted prior to forming the final grains. Thus it would have been obvious to one of ordinary skill in the art to use the desalting methods as clearly disclosed in Takahashi, Hasegawa, Yamamoto et al. and Saitou et al. for forming internal latent image grains because Takahashi, Hasegawa, Yamamoto et al. and Saitou et al. disclose that such methods are to be used in forming internal latent image type grains.

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It is noted that the Examiner also considers that a core grain formed and then desalted prior to forming the shell thereon meets the limitations of the instant claim.

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Evans et al.

Evans et al. in emulsions A and B discloses silver halide grains of structural formula within the scope of the silver halide grains of the instant claims. Note that emulsion A is the core with a diameter of 1 micrometer and a thickness of .08 micrometers. Emulsion A is chemically sensitized. Emulsion B is then coated on emulsion A. The total diameter of the core/shell grain formed is 3 micrometers and the total thickness is .25 micrometers. Thus for this example a is 1 micrometer and b is 0.085 micrometers. Thus the instant claims lack novelty.

It is noted that the emulsion B is chemically sensitized after it is formed. It is the Examiner's position that the silver bromoiodide grains of emulsion B prior to chemical sensitization are within the scope of the grains of the instant claims. Thus the instant claims lack novelty. The fact

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that the grains are later chemically sensitized does not detract from the lack of novelty.

19. Claims 1, 2 and 7-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Evans et al.

Evans et al. discloses tabular grains which may be used in internal latent image type systems which are of ~~core/shell structural form. Emulsion B discussed above is of~~ structural formula within the scope of the grains of the instant claims. Regardless of the Examiner's position in paragraph 18 above, it would have been obvious to one of ordinary skill in the art to make and use internal latent image forming emulsion grains with shells which have thicknesses "a" and "b" within the scope of the thicknesses of the instant claims. Emulsion B clearly shows that such core/shell grains are contemplated by Evans et al. The other example emulsions of Evans et al. have "a" values within the scope of "a" as claimed in the instant claims. The "b" values are slightly smaller than those of the instant claims. However it would have been very clearly obvious to one of ordinary skill in the art to make grains with thicknesses within the scope of "b" of the instant claims because Evans et al. clearly discloses that such sizes are contemplated and are equivalent to the specifically exemplified emulsion grains.

Concerning claim 2, it is noted that said claim is a product-by-process claim.

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Regardless of claim 2 being a product-by-process claim, it would have been obvious to one of ordinary skill in the art to use desalting processes which are well known in the art for forming seed crystal grain emulsions because desalting removes salts which would interfere and cause nucleation problems when further coating.

20. ~~Claims 1-9 are rejected under 35 U.S.C. § 103 as being~~ unpatentable over Evans et al. further in view of Tanemura et al. or Shuto et al. '719.

The Examiner's position concerning Evans et al. remains as stated in paragraphs 18 and 19 above. Additionally, Tanemura et al. and Shuto et al. '719 disclose sulfur compounds of structural formula within the scope of the sulfur compounds of the instant claims for use in preparing internal latent image silver halide grains. It would have been obvious to one of ordinary skill in the art to use the sulfur compounds of Shuto et al. or Tanemura et al. with the grains of Evans et al. for the purposes of providing improved image identifiability and high Dmax, low Dmin and high contrast.

21. Ohashi et al. is cited of interest as disclosing core/shell thicknesses clearly generically within the scope of the shell thicknesses of the instant claims. Note column 3 line 58 - column 4 line 2.

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Shuto et al. '784 is cited of interest as disclosing similar types of grains and sulfur containing compounds.

Saitou '037 and '555 are cited of interest as disclosing similar types of core/shell tabular grain structures.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee C. Wright, whose telephone number is (703) 308-2293. The examiner can normally be reached Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles L. Bowers, Jr., can be reached on (703) 308-2417.

Any inquiry of general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

The fax telephone number for Art Unit 1113 is (703) 305-3599.



Lee C. Wright
Primary Examiner
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LCW:cdc
March 8, 1996